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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,679	03/03/2004	Toshinori Tsukamoto	107101-00055	2279

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EXAMINER	
MCCALL, ERIC SCOTT	
ART UNIT	PAPER NUMBER
2855	

DATE MAILED: 06/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/790,679	TSUKAMOTO ET AL.	
	Examiner	Art Unit	
	Eric S. McCall	2855	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,9,10 and 14* is/are rejected.

7)☒ Claim(s) *6-8 and 11-13* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *June 03, 2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

MALFUNCTION DETECTING SYSTEM OF ENGINE COOLING APPARATUS

FIRST OFFICE ACTION

SPECIFICATION

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. The Applicant's cooperation is requested in correcting any errors of which the Applicant may become aware of in the specification.

CLAIMS

35 U.S.C. § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5, 9, 10, and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Oka et al. (2003/0131659).

With respect to claim 1, Oka et al. suggest a system for detecting malfunction of an engine cooling apparatus constituted as a radiator having an inlet pipe and an outlet pipe each connected to an internal combustion engine in such a manner that coolant flows in the radiator through the inlet pipe to be cooled and is then recirculated back to the engine through the outlet pipe, and a thermostat opening/closing the inlet pipe and the outlet pipe, comprising:

a temperature sensor (21) installed at the radiator and detecting a temperature of the coolant flowing through at least one of the inlet pipe and outlet pipe (Fig. 21);

malfunction discrimination area determining means for determining whether operation of the engine since starting is within an area that enables malfunction discrimination of the cooling apparatus (page 4, paragraph 70); and

malfunction discriminating means for discriminating whether the cooling apparatus has malfunctioned based on change of the temperature of the coolant since the engine starting, when the operation of the engine is discriminated to be within the malfunction discrimination area (page 4, paragraph 71).

With respect to claim 2, Oka et al. suggest that the malfunction discrimination area determining means includes:

time measuring means for measuring a period of time since the engine starting; and

time comparing means for comparing the measured period of time with a predetermined period of time (page 4, paragraph 70; time is measured until a predetermined amount of time elapses); and

the operation of the engine is within the area that enables the malfunction discrimination of the cooling apparatus, when the measured period of time exceeds the predetermined period of time (ie. after the predetermined period of time elapses, temperature comparisons are carried out).

With respect to claim 3, Oka et al. suggest that the malfunction discriminating means includes:

temperature comparing means for comparing the temperature of the coolant with a reference value; and

discriminates that the cooling apparatus has malfunctioned, when the temperature of the coolant exceeds the reference value (page 4, paragraph 71).

With respect to claim 4, Oka et al. suggest that the predetermined period of time is calculated from the temperature of the coolant at engine starting and thus suggest the claimed subject matter thereof.

With respect to claim 5, Oka et al. suggest that the reference value is calculated from the temperature of the coolant at engine starting since the reference value is a coolant temperature and the temperature comparison is made after engine start-up.

With respect to claim 9, Oka et al. teach the malfunction discriminating means discriminates that the thermostat has experienced open-state sticking such that the cooling apparatus has malfunctioned (page 4, paragraph 71).

With respect to claim 10, Oka et al. suggest a system for detecting malfunction of an engine cooling apparatus constituted as a radiator having an inlet pipe and an outlet pipe each connected to an internal combustion engine in such a manner that coolant flows in the radiator through the inlet pipe to be cooled and is then recirculated back to the engine through the outlet pipe, and a thermostat opening/closing the inlet pipe and the outlet pipe, comprising:

a temperature sensor (21) installed at the radiator and detecting a temperature of the coolant flowing through at least one of the inlet pipe and outlet pipe (Fig. 21);

time measuring means for measuring a period of time since the engine starting (page 4, paragraph 70);

time comparing means for comparing the measured period of time with a predetermined value indicative of a period of time until the thermostat presumably opens after the engine starting (page 4, paragraph 70);

temperature comparing means for comparing the temperature of the coolant with a reference value, when the measured period of time exceeds the predetermined value (page 4, paragraph 71); and

malfunction discriminating means for discriminating that the cooling apparatus has malfunctioned, when the temperature of the coolant exceeds the reference value (page 4, paragraph 71).

With respect to claim 14, Oka et al. suggest the malfunction discriminating means discriminates that the thermostat has experienced open-state sticking such that the cooling apparatus has malfunctioned (page 4, paragraph 71).

Allowable Subject Matter

Claims 6-8 and 11-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 6 and 11 have been found to be allowable over the prior art because the prior art fails to teach or suggest discriminating that a cooling apparatus has malfunctioned if the coolant temperature exceeds a highest one of the reference values, as defined by the claim, even when

the measured period of time, as defined by the claim, does not exceed the predetermined period of time, in combination with the remaining limitations of said claim.

Claims 7 and 12 have been found to be allowable over the prior art because the prior art fails to teach or suggest reserving discrimination that the cooling apparatus has malfunctioned, if the temperature of the coolant exceeds a lowest one of the reference values, as defined by the claim, but the temperature of the coolant does not exceed one of the reference values that is higher than the lower one, in combination with the remaining limitations of said claim.

Claims 8 and 13 have been found to be allowable over the prior art because the prior art fails to teach or suggest discriminating that the cooling apparatus is normal, if the coolant temperature does not exceed a lowest one of a plurality of reference values.

CITED DOCUMENTS

The Applicant's attention is directed to the enclosed "PTO-892" form for the documents made of record at the time of this office action.

CONTACT INFORMATION

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Eric S. McCall whose telephone number is (571) 272-2183.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Eric S. McCall
Primary Examiner
Art Unit 2855
June 23, 2005